

ADJUSTMENT OF BIT DETECTION THRESHOLD IN A TDMA BURST COMMUNICATION SYSTEM

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ABSTRACT

10 A method is disclosed for optimally adjusting the received bit detection threshold
in a digital communication system, such as a TDMA system that is characterized by very
short duration burst transmissions. In one embodiment of the invention, a half-duplex
radio modem is used for transmission and receipt of messages for airborne and ground-
based Automatic Dependent Surveillance-Broadcast (ADS-B) service. A feedback path
is provided for in the transmission/receiver unit to provide the transmission signal to the
receiver path. A bit detection threshold adjustment circuit receives the transmission
signal. The circuit digitizes the analog baseband signal, detects the positive and negative
15 peak values and calculates a peak-to-peak deviation value to define the bit detection
threshold value.

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